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To: CDC /HICPAC Committee Revising CDC Guidelines for the Prevention of CRBSIs

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RE: Public comment on CDC Guidelines to Prevent CRBSIs

Thank you for the opportunity to give comment to the proposed revisions to the CDC Guidelines for the Prevention of CRBSIs.

1. Pg 13, Lines 301-2: Recommend adding: "If the patient has Chronic Kidney Disease (CKD) Stage 3 or higher, or has End-Stage Renal Disease (ESRD), the subclavian/axillary veins should be avoided for the insertion of any type of central venous catheter. Peripherally Inserted Central Catheters (PICCs) should be avoided, unless cleared by the nephrologist involved in the patient's care. A central venous catheter should be placed in the internal jugular vein in patients with CKD or ESRD."

Rationale: The insertion of any type of central venous catheter into the subclavian/axillary vein system will result in a certain amount of stenosis and/or thrombosis of that vessel. With a growing and very large population of patients with hypertension and diabetes mellitus, the pool of persons who are at risk for Chronic Kidney Disease (CKD) is in the millions. This pool of persons may eventually end up with End-Stage Renal Disease. The safest access device if the person requires hemodialysis is a native arterio-venous fistula or AV graft in the upper extremity. Creation of an AV fistula or graft will be precluded if there is previous damage along the vein path returning blood back to the R atrium. See the position paper by the Association for Vascular Access (AVA) and the American Society for Diagnostic and Interventional Nephrology, and the National Kidney Foundation's Kidney/Dialysis Outcome Quality Initiative Guidelines.

Page 16: lines: 353-4: Add: (e.g., preexisting catheters, anatomic deformity, bleeding diasthesis, "lymph node removal or whether the patient has Chronic Kidney Disease (CKD) or End-Stage Renal Disease "ESRD).)"

2. Page 16, Line 357: …from open wounds "or stomas or fistula drains."

3. Page 19, Line 424: Prepare clean skin with 70% alcohol (add) "or alcoholic chlorhexidine" before peripheral venous catheter insertion.

4. Page 19, Line 426: 2. Prepare clean skin with a 2% (add) "alcoholic" chlorhexidine-based preparation using friction for at least 30 seconds or for 2 minutes on a femoral site….."

Rationale numerous studies have indicated that the combination of 70% IS alcohol and chlorhexidine is superior to other skin antiseptics. It is time and friction that will adequately reduce the bioburden on the skin.

5. Page 19, Line 426: Prepare **CLEAN** skin… Although the CDC Guidelines have long stated "clean" skin, most clinicians will not clean the skin prior to catheter insertion. The same rationale for spelling out that clinicians need to wash their hands with antiseptic soap or use alcohol hand gels prior to touching a patient or their catheter should be applied to defining what CLEAN SKIN means. Although there are no specific studies showing lower rates of infection with washing the patients skin, a description by the CDC in what "clean skin" means would be helpful when we (vascular access specialists) are teaching clinicians about CVAD insertion or care.

Suggestion: "Clean the patient's skin by using antiseptic soap and water, or using a chlorhexidine wipe or using alcohol swabsticks. Dry the skin before applying skin antiseptic."

"Rationale: There are numerous studies that indicate that the bioburden or the amount of bacteria that naturally reside on the skin are the number one risk factor associated with CRBSIs. Reducing the amount of bacteria at a potential insertion site will theoretically increase the effectiveness of an appropriate antiseptic and reduce the risk of CRBSI." We need to have clinicians take a patient's natural skin bioburden seriously in order to make all other strategies more effective.

6. Page 20, Line 461: 2. If the patient is diaphoretic or if the site is bleeding or oozing, use gauze dressing until this is resolved. (Add) "A sterile anti-bleeding product (thrombin-promoter) can be used if the insertion site is bleeding, but should be changed within 24 hours or when the oozing or bleeding has stopped."

7. Page 21, Lines 482-486: Use of a chlorhexidine-impregnated sponge dressing….. Category 1B.

Recommend changing to Category 1A. The Timset study is a large, multi-centered study, prospective, randomized study that showed the chlorhexidine-impregnated dressing to reduce infection rates in both university and community hospital intensive care units in the context of already very low CRBSI rates. The Ruschulte study also showed a reduction in CRBSI rates in oncology patients in a prospective, randomized study. I believe this recommendation should therefore be a Category 1A.

8. Page 24: Patient Cleansing

Recommendations

Use a 2% chlorhexidine daily wash to reduce CRBSI. (Add) "Cleanse the patient's skin at and around the potential insertion site for a CVC or PICC using antiseptic

soap or chlorhexidine wipe and dry the skin in order to reduce the natural bioburden on the patient's skin prior to catheter insertion." Category II.

Rationale: See comments from #5.

9. Replacement of IV administration sets:

Recommend adding verbiage about "Changing intermittent IV sets": "When intermittent IV sets are used (meaning the nurse disconnects the IV tubing between infusions), the end of the intermittent IV tubing should be capped off with a new sterile cap each time. It should NOT be connected to itself at another access side port along its length." Category II.

Rationale: Nurses somehow think that just wiping a side port along the intermittent tubing is OK, and can be reconnected repeatedly to the saline or heparin lock of the catheter. I will attach some photos showing this issue. Although there are no studies addressing this clinical practice, the IV tubing companies supposedly teach that once disconnected the ends of the tubing should be covered with a NEW sterile cap. However, many nurses claim the tubing is sterile and doesn't need a new sterile cap. Unfortunately, this needs to be spelled out.

10. Page 48, Line 1074: 4. Minimize contamination risk by (delete "wiping", change to) "clean vigorously using friction for several seconds, like juicing an orange" the access port with an appropriate antiseptic, such as alcoholic chlorhexidine or alcohol, and accessing the port only with sterile devices.

Rationale: Nurses and physicians often just swipe the portal access, not taking the time to "scrub the hub" using friction and time, nor to clean the outside threads of the needleless connector. With all the issues around different types of needleless connectors, it is necessary to spell out that not only the top surface but also the threads of these needleless connectors or IV ports needs to be cleaned vigorously with antiseptic.

11. Page 48, Line 1085-6: Nonetheless, stopcocks should be capped off when not in use (add) "with a new sterile cap."

Rationale: Nurses and physicians sometimes will NOT cap at all, or will reuse the previous cap, trying to save money by not getting a new sterile cap.

12. Page 48, Lines 1087-1091: Piggyback systems:

(Add): "When piggyback systems are used intermittently, a new sterile cap should be placed at the end of the intermittent tubing each time it is disconnected."

Rationale: See #9 above.

13. Page 49, Line 1111: …positive (delete "pressure", and change to) "displacement". These devices don't create pressure in the catheter, but cause a

displacement of blood by pushing out saline or IV fluid, or cause blood to back into the catheter lumen if negative "displacement."

14. Page 50, Multidose Parenteral Medication Vials and Parenteral Fluids

Recommend adding: "and Pre-filled Flush Syringes"

Page 51: following line #1161: Recommend adding:

"15. Prefilled flush syringes are designed for one time use only, and should not be used to flush a catheter more than one time. The access port should be cleaned using friction with appropriate antiseptic each and every time it is accessed." Category II.

Rationale: Prefilled flush syringes save time by not having to go through the trouble of opening up syringes and needles, and accessing vials of flush solutions. However, nurses like to "save money" by using a single pre-filled saline syringe more than once, eg, splitting the flush before and after administering IV push medications. They don't understand that there can be contamination of the syringe tip (internal pathway) after the first flush, and removing the flush half-way, putting into the bed or on the table, flushing with medication, and then re-using the same flush syringe , risks contamination of the internal lumen. The other problem is that nurses (and physicians) think that one swipe of the port is fine despite the fact that they are accessing it multiple times to flush, given an IV medication or draw labs, and flush again.

15: There is nothing in the guidelines that addressing accessing implanted ports. Many nurses think that it is fine to access a port using non-sterile gloves and to secure the Huber needle wings with non-sterile tape. There are no studies that address whether this is a risk factor, but the idea of touching the wings of a sterile Huber needle with non-sterile gloves and then accessing the skin over the port with such a Huber needle, risks contamination of that site. Perhaps under dressing management, a point should be made about accessing implanted ports.

Suggested verbiage: "When accessing an implanted port, the skin should be cleaned with a appropriate skin antiseptic using friction. Only sterile gloves should be used if the skin at the access site will be touched when inserting the non-coring needle, and sterile tape and dressing should be applied to secure the non-coring needle wings and device."

As the majority of CABSIs are associated with skin contaminants, it is imperative that the CDC address all sources of risk, and encourage clinicians to be aware that any contamination of the skin either during insertion or accessing of the device can cause microbial contamination and risk of CRBSIs.

Thank you for the opportunity of responding to these guidelines.